

TITLE OF INVENTION

001. CHANGEABLE GOLF SPONSOR DISPLAY - in reference to Provisional application

002. # 60/459/004 - filing date - 4/01/2003

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004. CROSS-REFERENCE TO RELATED APPLICATIONS

005. 4,270,292 2/1981 Eckberg, II . . . . . 40/611

006. 5,408,774 4/1995 Grewe et al. . . . . 40/606

007. 5,448,844 9/1995 Miller, Jr. et al . . . . . 40/611

008. 5,619,816 4/1997 Ellison . . . . . 40/738

009. 5,675,923 10/1997 Sarkisian et al. . . . . 40/612

010. 5,678,339 10/1997 Marventano . . . . . 40/789

011. 6,253,478 B1 7/2001 Kalavity . . . . . 40/645

012. 6,276,084 B1 8/2001 Lanier . . . . . 40/611

013. 6,449,891 B1 9/2002 Miska . . . . . 40/789

014. 6,584,717 B2 7/2003 Cinquina . . . . . 40/774

015. 6,594,934 B1 7/2003 Wong . . . . . 40/743

016.

017. STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

018. Not applicable.

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020. REFERENCE TO SEQUENCE LISTING

021. Not applicable.

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023. BACKGROUND OF THE INVENTION

024. Category field of the invention;

025. The present invention relates to changeable indicia substrate displays, more  
026. particularly to changeable golf sponsor displays suited for penetrating the ground,  
027. but not exclusively; as said invention is self supporting for indoor counter top or floor  
028. display use and also changeable to outdoor use, including ground penetration.

029. BACKGROUND OF THE INVENTION

030. Description of prior art;

031. Charitable golf outings display sponsor and donor names, using sponsor signs  
032. that are placed in the ground throughout the golf course. The current method of  
033. supply, is computer cut vinyl lettering applied to a corrugated substrate, and  
034. supported by low quality, and quick to rust "H-shaped" wire stands. When golfing  
035. during the event, these said current displays become moving distractions in the  
036. slightest wind. Said current sign display is both expensive to have lettered, and  
037. also expensive to remove and re-letter any new sponsor names or tournament  
038. information. The tournament director is totally dependent on a local sign shop  
039. for price, quality, and rush deadline sponsor additions. Transporting and storage  
040. of this corrugated sign and wire stand sign are both cumbersome and bulky.  
041. The use of said current display is limited to the golf course on tournament day only,  
042. with no other options of use.

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044. SUMMARY

045. This invention of a changeable golf sponsor display is purposed to free up the  
046. user's dependency on others to supply printed sponsor indicia, provide more  
047. options in substrate types used, including how, when and where said display can  
048. be used. The full extension of a retractable,  
049. stainless steel leg set transforms a single flexible planar display substrate  
050. into a 3-D appearing curvature shape. An optional and vertically adjustable  
051. sliding clip allows various size and thickness of rigid indicia substrates to be quickly  
052. mounted to frontward convex surface of said display. The instant speed of  
053. changing said indicia substrates competes with all other assets, including  
054. compact storage, safe and easy handling, and vertical self-standing stability.  
055. With leg set retracted and inverted, said leg set retains said curvature shape  
056. for optional pre-tournament advertising use as an indoor counter top or floor

057. SUMMARY - continued

058. display within a sponsor's own business location, or by any others affiliated with  
059. the golf event. A pre-event display advertises the golf tournament for attendance  
060. and sponsorship; whereas said display changes to an outdoor ground penetrating  
061. display during the event; and then changes back to an indoor display, thanking  
062. those previously solicited, with photos and dollar amounts taken in. These opened-  
063. up options of how, when and where said display is used, all fill a need in any  
064. tournament director's end goal. Last minute sponsor changes, or any message  
065. needed quickly, may be printed from any computer and instantly displayed.  
066. One multi-purpose display can now be used before, during and after the golf event.  
067. User's dependency on others is freed up, with many more options left open.  
068.

069. BRIEF DESCRIPTION OF THE DRAWINGS

070. Fig. 1 shows rear view of preferred embodiment with leg set extended,  
071. cylindrically curved shape retained, indicia retaining slit with predetermined vector  
072. line beginning and ending stress points, and a plurality of apertures and notches.  
073. Fig. 2 shows an overhead view with leg set extended.  
074. Fig. 3 shows rear view before forming said leg set apertures.  
075. Fig. 4 shows rear view in storage form, with said leg set retracted, and one leg  
076. of said leg set removed from leg set retaining apertures.  
077. Fig. 5 shows rear view with said leg set inverted, for use as a self standing display.  
078. Fig. 6 shows front view with uppermost vertical planar edge pulled back for  
079. flexible indicia insertion.  
080. Fig. 7 shows front view with leg set deployed, and rigid indicia substrate inserted.  
081. Fig. 8,a and Fig. 8,b show front and back views respectively, of vertically  
082. adjustable sliding clip. Fig. 8,c shows substrate shape before forming.  
083.  
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085. BRIEF DESCRIPTION OF THE DRAWINGS - continued

086. NUMERALS IN DRAWINGS

087. 10	main body of display substrate	12	ground level
088. 14	wire rod leg set	16	elongate bent leg tips
089. 18	leg set retaining aperture	20	lower base curvature of display
090. 22	vector line slit stressed end points	24	completely cut-through slit
091. 26	rigid indicia retaining tab	28	indicia retaining appendage
092. 30	planar edge perimeter notch	32	horizontal display width comparison
093. 34	main body curvature	36	aperture forming support tabs
094. 38	aperture area before forming	40	flexible indicia substrate
095. 42	rigid indicia substrate	44	uppermost vertical planar edge
096. 46	vertically adjustable sliding clip	48	curved tab of sliding clip

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098. DETAILED DESCRIPTION OF THE INVENTION

099. Fabrication of the overall perimeter edge shape or design is optionally  
100. altered to most any single shape that suits the event; from a golf ball and tee  
101. shape, to a soccer or football, without detracting from the function or scope of the  
102. invention. Said option of changing said perimeter shape of said display is possible  
103. through the simplicity of the tear preventive indicia retaining slit which forms  
104. the indicia substrate retaining appendage. Fabrication of perimeter design shape  
105. and functional indicia substrate retention area is done with one downstroke of a  
106. die-cutter; and by using only one piece of flexible planar substrate material, plus a  
107. means of retention source. A means of retention may include exteriorly fixed  
108. abutments, a fixed length tie strap, a resilient stretchable bungee cord, or a fixed  
109. width wire rod leg set. This particular display is made of two main parts; a flexible  
110. planar polymer substrate, and a said fixed wire rod leg set. A third and optional  
111. part is a vertically adjustable sliding clip; made also from the same type of  
112. substrate as said display, and purposed to retain rigid indicia substrates.

113. DETAILED DESCRIPTION OF THE INVENTION - continued

114. The major components comprising;

115. a formed shape of the main body Fig. 3,10 of a flexible planar substrate; a  
116. completely cut through slit Fig. 3,24, to be referred to as a flexible indicia substrate  
117. retaining slit, or retaining slit; A plurality of determinedly spaced planar edge  
118. perimeter notches Fig. 3,30; a plurality of aperture forming support tabs Fig.3,36,  
119. to be referred to as support tabs; and the areas Fig. 3,38, to be formed into a  
120. plurality of determinedly spaced apertures Fig. 2,18, to be referred to as leg set  
121. apertures. Also shown in Fig. 3,32 are dotted lines to show future width and  
122. horizontal compression of said display (when compared with Fig 1 and Fig. 4 ).

123. Fabrication

124. of said leg set apertures (Fig. 1,18) are formed in said areas Fig. 3,38,  
125. ( using methods relating to and accordingly to the material type of said flexible  
126. planar substrate used, whether polymer, paperboard, or metal).  
127. Said aperture forming support tabs are shown in Fig. 3,36 before forming, and  
128. in Fig. 4,36 after forming. In this present case of a planar polymer display  
129. substrate, said support tabs Fig. 3,36 are heat-formed, folded over a mold element  
130. of a close diameter as that diameter of said leg set, approximately 180 degrees  
131. and back onto, and adjacent to the rearward surface of the vertically lower area  
132. of said main body of display substrate, where surfaces contact each other Fig. 4,36,  
133. and a longitudinal and elongate leg aperture is formed with tolerances  
134. matching diameter of metal rod of said leg set and also matching the desired  
135. ability of said leg set to slide smoothly and elongately within said leg set aperture  
136. Fig. 4,18. The remaining portions of said aperture forming support tabs Fig. 4,36 will  
137. provide a greater vertical rigidity and a greater springable resistance to  
138. compression of said display substrate.

139. A (u-shape) leg set Fig. 4,14 is formed from a metal wire rod, with a slight bend  
140. formed near each elongate end Fig. 4,16. One leg of said leg set is positioned

141. DETAILED DESCRIPTION OF THE INVENTION - continued

142. parallel to the vertically lower and rearward planar surface of said display and  
143. adjacent to said aperture forming support tab. Said tab is then lifted away from  
144. said rearward planar surface of display substrate to allow a horizontal sliding of  
145. one individual leg behind said tab until leg is positioned into said leg set aperture  
146. Fig. 4,18. A slight bend Fig. 4,16 at the elongate end of both leg tips prevents said  
147. leg set from prematurely and longitudinally exiting said leg set aperture.

148. Fig. 4 shows present state of completion, with said display substrate in a relaxed  
149. tension free mode for handling and storage.

150. Fig. 8,a and Fig. 8,b show resulting tab after the last process of fabrication;  
151. the heat bending of said vertically adjustable sliding clip. Fig. 8,c shows polymer  
152. substrate shape before bends are made. Each elongate end Fig. 8,c is heat  
153. formed and folded approximately 180 degrees around side edges and toward  
154. rearward surface of said indicia retaining appendage for a slidably but snug fit.  
155. The center positioned tab at vertically lower edge Fig. 8,c,48 is then bent  
156. toward user, frontwardly, upwardly, and bent approximately 180 degrees from  
157. original position; creating a retaining and recessed area for retaining the vertically  
158. lower edge of rigid indicia substrate, as the vertically upper edge of said substrate  
159. is positioned and retained under and behind the rigid indicia retaining tab Fig. 7,26.

160. Fig. 7 shows the present state of completion with said rigid indicia 42 in position.

161. Various drawings showing different views, uses, and stages of fabrication  
162. are as follows;

163. Shown in Fig. 4,32 is a dotted line for visual width comparison between Fig. 4,32  
164. and Fig. 1,32. Fig. 1 is a rear view showing both legs of said leg set positioned  
165. within said leg set apertures, whereas said display is under circumferential  
166. compression and retension. Fig. 2 is an overhead view of Fig. 1. Shown are  
167. elongate bent leg tips 16; wire rod leg set 14; curvature of frontward convex  
168. surface of said display 34; and said leg set apertures 18.

169. DETAILED DESCRIPTION OF THE INVENTION - continued

170. Fig. 6 is a front view of Fig. 1 with said flexible indicia substrate Fig. 6,40 inserted between  
171. said display substrate 10, and indicia retaining appendage 28, as the uppermost vertical  
172. planar edge 44 is pulled back toward user for easier insertion of said flexible indicia  
173. substrate 40. Frontward and slightly angled view of said curvature shape 20 is shown at  
174. vertically lower base area of said display substrate. Small dotted lines represent unseen areas  
175. of said indicia retaining appendage 28 (as per this specific view), as hidden by said flexible  
176. indicia substrate 40. Large dotted lines represent unseen areas of said flexible indicia substrate  
177. 40, as hidden by said main body of display substrate 10. Outer perimeter dimension of said  
178. flexible substrate is always larger than the dimension of said completely cut-through slit 24, or  
179. slit-formed said indicia retaining appendage 28. A rigid indicia substrate Fig. 7,42 is shown  
180. inserted into said display in Fig. 7. Said rigid indicia substrate 42 is positioned under and  
181. behind rigid indicia retaining tab 26, where said vertically adjustable sliding clip 46 is  
182. raised vertically upward until curved tab of said clip 48 rests under and supports said rigid  
183. indicia substrate. Dotted lines of said sliding clip 46 represent unseen area of said sliding clip,  
184. as hidden by said rigid indicia substrate 42. Dotted lines of Fig. 7,28 show hidden area of said  
185. indicia retaining appendage. A said flexible indicia substrate may be inserted and viewed  
186. simultaneously with a said rigid indicia substrate, with only a loss of viewing area equal to the  
187. amount which said rigid indicia substrate covers up. Said vertically adjustable sliding clip is  
188. shown in Fig. 8,a as a front view showing curved tab of said clip 48; and also in Fig. 8,b as a  
189. rear view, also showing curved tab of said clip 48. Said sliding clip is a separate and optional  
190. part, yet vertically retained onto and surrounding said indicia retaining appendage through  
191. the same tensions of compression and retention that hold said flexible indicia substrate.

192. A counter-top, table-top, or free and self-standing floor display become options by  
193. removing said leg set ( one leg at a time ) and vertically inverting said leg set Fig 5,14, then  
194. again replacing legs under each said aperture forming tab. The overall tensions are slightly  
195. and minutely reduced with said leg set in this inverted position, yet keeping more than needed  
196. for functional use as an indoor free-standing 3-D display.

197. DETAILED DESCRIPTION OF THE INVENTION - continued

198. Operation -

199. Note that the vector line slit stressed endpoints of said aperture and appendage  
200. forming completely through cut slit, are shown in Fig. 1,22; and how their last  
201. positions and direction of travel are not directionally parallel with any 3 sides of  
202. perimeter of said formed appendage. These directionally predetermined end points  
203. will prevent further tearing or extending of said vector line slit; under normal and  
204. intended use, and when said display is subjected to directionally intended  
205. compression, curvature, and retension. Said appendage is not intended to be used  
206. as a handle to pull sign out of ground by, or be carried by, or to twist when inserting  
207. or removing any indicia substrates.

208. A display with one leg positioned within one aperture is in a relaxed state with  
209. all tensions released. This "flattened" for compact storage and stackable carrying  
210. mode is changed as the user lifts the other remaining support tab back and away  
211. from the rearward surface of display; and horizontally slides remaining leg under  
212. said tab until it is "snapped" positioned into place within the remaining leg set  
213. aperture. As this process is done, beginning stresses and tensions have already  
214. been placed on entire said display, including said leg set; which is then slid  
215. downwardly; pointedly away from user's body; and longitudinally and elongately  
216. within open areas of said leg set apertures. The full extension of said leg set  
217. completes compression, curvature shape, and then retains all stresses. User then  
218. pushes said extended leg set into ground with hands or foot. After user addresses  
219. the now upright display from frontward indicia viewing side, the uppermost planar  
220. perimeter edge Fig. 6,44 is pulled frontward and toward user's body to allow  
221. insertion of said flexible printed indicia, and then released.  
222. Said curvature shape causes said upper edge to "snap" position itself back to  
223. said state of tensioned curvature; wherein said indicia Fig. 6,40 is held tightly in  
224. place between said rearward concave surface of said display and frontward



225. DETAILED DESCRIPTION OF THE INVENTION - continued

226. Operation - continued

227. convex surface of said indicia substrate retaining appendage.

228. A rigid indicia substrate may be inserted at this time, as user again addresses

229. said display from said frontward viewing side, then grips said edge 44

230. and pushes it rearward and away from user's body. This action lifts the rigid

231. indicia retaining tab Fig. 7,26 for easy insertion of said rigid indicia substrate.

232. The vertically upper planar edge is positioned under and behind said tab, with

233. rearward surface of said rigid indicia substrate adjacent to frontward surface of

234. said indicia substrate. Said vertically adjustable sliding clip Fig. 7,46 is then

235. adjusted vertically until the indentation of its curved tab 48 contacts and supports

236. the vertically lower planar edge of said rigid substrate 42. Said clip is optionally

237. pre-mounted onto and partially surrounding said retainer appendage Fig. 7,28;

238. and is retained by dimensionally close tolerances between said appendage and

239. said main body of display, and retained tensions when in a state of compression.

240. When said clip is not in use, there is no obstruction or interference with said indicia

241. substrate when said clip is positioned at the vertically lowest position possible.

242. Other means for retention of said curvature shape can be used in addition to

243. said leg set; including the current wire stands now widely in use; a fixed length

244. plastic tie strap; an elastic bungee cord; and any fixed width abutments are

245. all functional for retension.

246. User has the option at any time to remove said leg set, vertically invert, and

247. replace said inverted leg set for multi-purpose indoor and outdoor uses Fig. 5.

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